

# INDEX TO VOLUME VI.

\*. Names of contributors are printed in small capitals.

- ABOTT, C. C. Aestivation of mammals; what is it? 402.  
 Abbott, Miss H. C. D., on *Yucca angustifolia*, 210.  
 Abert's squirrel, 82.  
 Abnormal black bass, *ill.* 243.  
 Actinometer, self-recording, 313.  
 Adelaide observatory, 350.  
 Aden, tornado at, 58.  
 Adulteration of honey, 210.  
 Aepyornis, 418.  
 Aerial navigation, 20.  
 Aerostatic school, 300.  
 Aestivation of mammals, 402.  
 Afghan boundary, tribes upon, *ill.* 69.  
 Africa, around, *ill.* 114; coal-beds in, 59; cultivation in, 180; East, explorations in, 311; German possessions in, 40; West, Cameroons district, 555.  
 African expedition, 60; islands, 306; slave trade, 441; smilthy, *ill.* 347.  
 AGASSIZ, A. The coast survey and 'political scientists,' 253.  
 Agassiz, A., 302.  
 Agassiz's Life of L. Agassiz, reviewed, *portrait*, 330.  
 Agassiz, L., on the activity of the mind during sleep, 244; influence on scientific activity, 384; life of, *portrait*, 330; memorial of, 258.  
 Agassiz museum, *ill.* 421.  
 Agricultural chemists, meeting of, 248; convention, 68; science, society for promotion of, 2, 193.  
 Agriculture, demands of, on botany, 193; university courses in, 240.  
 Alabama weather-signals, *ill.* 181.  
 Alaska, exploration of, 278, 357, 380, 448; industries of, 357, 427; late news from, 95; native tribes of, 228; whaling catch in, 259.  
 Alasconiere's Horse breeding, reviewed, 447.  
 Albatross, last cruise of, 110.  
 Alert expedition, 350.  
 Algeria, colonization in, 317.  
 Allen's exploration of the Atnah River, 357, 380.  
 Allen's Organic analysis, reviewed, 356.  
 Alloys, aluminum, 210; copper and silver, 231.  
 Almucantar, 406; observations, 206, 239.  
 Alpine cretinism, 484.  
 Alps, Austrian, temperature in, 459.  
 Aluminum alloys, 210.  
 Alvord, H. E., on human foods, 235; tele-metric aid to meteorological records, 194.  
 America, ethnography of antarctic, 92.  
 American association for the advancement of science, 197, 201; committee reports, 202; composite portrait of officers of, *ill.* 167; local committee, 116; officers elect, 238; proceedings of sections, 304, 308, 310, 314, 319, 324, 227, 230, 233; resolutions concerning coast-survey, 204; publications of, 141; astronomical society, 312; contribution to museum economy, 82; economic association, 239, 464; flash language, 293; forestry congress, 181, 312; historical association, 349; history, materials for, in foreign archives, 250; opticians, honor to, 306; public health association, 428, 441, 449, 453, 511, 531; Silurian scorpion, *ill.* 87, *ill.* 183, 184; society of civil engineers at Deer Park, 13; for psychological research, censorship of, 81; first report of, reviewed, 155.  
 Americanists, international congress of, 240.  
 Amherst college science association, 100.  
 Amia, serrated appendages of, 226.  
 Amphipleura pellicida, photographs of, 228.  
 Anaesthetic, chloroform as, 154.  
 Analysis, statistical, 237.  
 Andromeda, new star in nebula of, 247, 310, 359, 473; spectrum of, *ill.* 362, 333, 359.  
 ANGELL, J. B. A need for a careful study of the history of China, 479.  
 Anglo-Saxon, history of, 487.  
 Ann Arbor, American association at, 197, 301; undergraduate study at, 428.  
 Annisquam zoological station, 259.  
 Anthrax inoculation, 120.  
 Anthropological school of Paris, 476; section of American association, 230.  
 Anthropologists, congress of German, 475.  
 Anthropology, criminal, 238.  
 Anthropometric apparatus, 361; instructions, 476.  
 Antislip, T., on laboratory practice, 211.  
 Appalachian mountain club, 438.  
 Archeological discovery, 19.  
 Archeologist in trouble, 359.  
 Archaeopteryx, 116.  
 Arctic coast of Alaska, 381.  
 Arctic exploration, 349.  
 Arcthusa, cruise of, 384.  
 Argentine republic, boundary of, 436; colonization in, 555; trade routes with Bolivia, 535.  
 Arizona natural bridge, *ill.* 67; scenery, 44.  
 Armsby, H. P., on Cooley system of creaming milk, 194.  
 Arthur, J. C., on pear-blight, 225.  
 ASHBURNER, C. A. The geology of natural gas, 42, 184.  
 Asia, central, explorations in, 554; maps of, 451.  
 Askabad, mineral resources of, 359.  
 Association of official agricultural chemists, 248.  
 Associations, color, 82, 125, *ill.* 142, 186, *ill.* 242, 337.  
 Asteroid, new, 333, 406, 449.  
 Asthma, 396.  
 Astronomical day, 18, 358, 444; notes, 95, 310, 333, 338, 361, 403, 427, 448, 473, 489, 516, 556; progress in 1894, 71; report, singular, 350; society of Brooklyn, 312; work at Nice, 350.  
 Astronomy, practical, 404.  
 ATKINSON, E. The application of science to the production and consumption of food, 254.  
 Atkinson, E., on competition and co-operation, 237; fire insurance, 236; silk-culture in United States, 236.  
 Atnah River, 357, 380.  
 Atropine, influence of, on circulation, 224.  
 Audubon collection of birds, 140.  
 Austrian expedition to the Kongo, 79.  
 Axes, stone, in Champlain valley, 233.  
 Axolotl, Mexican, 90; susceptibility to transformations, 263.  
 Aztec hieroglyphic writing, 560.  
 Babes. See Cornill and Babes.  
 Bacilli of cholera, 252.  
 Bacteria, chromogenous, 226.  
 Bacteria, 77; culture, methods of, 97.  
 BAILEY, S. C. H. A new meteoric iron from West Virginia, 563.  
 Bajeonoff, N., on skulls of assassins and men of note, *ill.* 72.  
 Baker, H. B., on relation of rainfall and water-supply to cholera, 532.  
 Bacteria, I. O. Natural gas in Illinois, 530.  
 Barnes, C. R., on cross-fertilization in *Campanula americana*, 225.  
 BASHORE, H. B. An Indian paint-cup, 3.  
 Battery, secondary, 60.  
 Beauchamp, W. M., on Iroquois clans, 321.  
 Bell, A. G., on astronomical day, 444.  
 Beloit college observatory, 300, 302.  
 Beloochistan, whirlwinds in, 118.  
 Ben Nevis meteorological observatory, *ill.* 450.  
 Bengal, earthquakes in, 159.  
 Berger, H. G., on influence of cocaine and atropine on circulation, 224.  
 Bergh, R., on the Challenger nudibranchs, 535.  
 Berlin exhibition of hygiene in 1883-83, reviewed, 36.  
 Bernard, Claude, statue to, *ill.* 117.  
 Berry, G. A., on civilization and eyesight, 190.  
 Bert, P., on chloroform as an anaesthetic, 154.  
 BERTHOUD, E. L. Abert's squirrel, 82.  
 BENTLILLO, J. Height in France, *ill.* 523.  
 Bessemer plant, 343.  
 Bossey, C. E., on bisexuality of pond-scum, 234; demands of agriculture on botany, 193; inflorescence of *Cuscuta glomerata*, 225.  
 Bettany's Eminent doctors, reviewed, 571.  
 Biela's comet, 333; meteor stream, 489, 496, 519, 556.  
 BIGELOW, H. R. Recent contributions to the literature of micro-biology, 124.  
 Billings, F. S. Relation of animal diseases to public health, reviewed, 38.  
 Billings, J. S., on tables for vital statistics, 531.  
 Biological laboratory, marine, in England, 382; section of American association, 224.  
 Birds, Audubon collection of, 140; gigantic, of Madagascar, 418; origin of, 116; relationship with dinosaurs, 295.  
 Blackfoot tribes, 456.  
 Bland, T., 440.  
 Bohemia, Peruvian reptiles of, 97.  
 Bolivia, trade routes with Argentine republic, 535.  
 BOLTON, H. C. Chemical nomenclature, 268.  
 Bolton's Catalogue of scientific serials, reviewed, 256.  
 Bolts in boilers, 214.  
 Boltz, A., on the Cyclops, 452.  
 Bonar's Malthus and his work, reviewed, 567.  
 Bone-caves in Wales, 53.  
 Bones, 289.  
 Bordeaux observatory, 427, 449.  
 Bore-hole, deep, 118.  
 Borneo, gold in, 119; travels in, 472.  
 Boston school for electrical engineering, 130.  
 Botanical club at Ann Arbor, 99.  
 Botany, physiological, Goodale's, 471; practical, 98; Shaw school of, 21, 475.  
 BOUTELLE, C. O. What has the coast survey done for science? 558.  
 Bower and Vines's Practical botany, reviewed, 98.  
 Brady, G. S., on the Challenger Entomotracks, 527.  
 Brady, H. B., on the Challenger Foraminifera, 327.  
 Brain of extinct vertebrates, 300; localization of functions in, 379; physiology of, 321.  
 Branner, J. C., on glaciation of Lackawanna valley, 221.  
 Brashear, J. A., on rock-salt surfaces, 207.

- Brazil, mangrove mud in, 130.  
 Brön and Korthals on results of Krakatoa eruption, *ill.* 291.  
 Breslau water-supply, 34.  
 Brewster, W. H. The ginkgo-tree, 103.  
 Bridge, natural, *ill.* 67.  
 Bridges, railroad, 14.  
 Brewster, D. G. The sculptures of Cozumalhuapa, 42.  
 British America, plains of, 408; museum of natural history, *ill.* 127.  
 Brooks, W. K. Artificial propagation and cultivation of oysters in floats, 437.  
 Brooks comet, 381.  
 Bruggmann's Philology, reviewed, 366.  
 Bryce, P. H. on small-pox in Canada, 533.  
 Buckton, G. B., on civilization and eyesight, 195.  
 Building-stones, decay of, 14.  
 Bulgaria and Bulgarians, 303.  
 Bulletin astronomique, 142.  
 Buxton, F. S. Anti-cholera inoculation, 439; carbolic acid as a disinfectant, 560.  
 Burgess, E., 384, 477.  
 Burial customs, 233.  
 Burmah, 158; fate of, settled, 552; railways in, 552.  
 Burman dispute, *maps*, 399.  
 Burrill, T. J., on silk-culture, 194.  
 Busk on the Challenger Polyzoa, 537.  
 Butler, A. W., on remains at San Juan Teotihuacan, 231.  
 Butler, N. M. The study of logic in the scientific schools, 242.  
 Butterflies of North America, 307.  
 Cable, laying a, 543.  
 Cailliet, L. The liquefaction of oxygen, *ill.* 51.  
 Caird's Social philosophy and religion of Comte, reviewed, 354.  
 Calendar, reform in, 324, 408.  
 California, archeological discovery in, 19.  
 Cameroons district, West Africa, 555.  
 Campanula americana, cross-fertilization in, 225.  
 Camphor, trade in, 451.  
 Canada, geological survey, 521; small-pox and vaccination in, 533.  
 Canadian plains, 565.  
 Cantwell's exploration of the Kowak River, 390.  
 Capello and Ivens in Central Africa, 489.  
 Capron, J. R., on civilization and eyesight, 195.  
 Cartographic work in Portugal, 59.  
 Casino's Standard natural history, reviewed, 74.  
 Cassiopeiae ( $\gamma$ ), spectrum of, 386.  
 Caucasus, explorations in, 492; petroleum in, 313.  
 Cereals, origin of, 73.  
 Chaffanjon's expedition on the Orinoco, 135, 157, 356.  
 Challenger expedition, work of, reviewed, 15, 54, 137, 138, 526.  
 Champlain valley, stone axe in, 233.  
 Chance's Report on North Carolina coal-fields, reviewed, 548.  
 Chancellor, C. W., on causes of pulmonary consumption, 533.  
 Chandler, S. C., jun. The change in the great nebula in Andromeda, 247.  
 Channing, E. Bulgaria and Bulgarians, *maps*, 303; the Burman dispute, *maps*, 399.  
 Chappell, J. E. Crystals in maple sirup, 539.  
 Charcoal burning, utilization of by-products in, 506.  
 Chauvin, Marie von, on Mexican azoloti, 80.  
 Chazal, P. E., on determination of nitrogen, 249.  
 Chemical laboratory, national, suggested, 536; nomenclature, 368.  
 Chemism, 211.  
 Chemistry, organic, 76; and public health, 308; section of American association, 210.  
 Chemists, agricultural, meeting of, 248; standing of, 538.  
 Chesapeake zoological laboratory, work at, 139.  
 Chevreul, a centenarian, 258.  
 Cheyne's observations on cholera microbe, 196.  
 Chicago-River pollution, 27.  
 Child, A. L. The English sparrow, 478.  
 China, medical missionary work in, *ill.* 570; need to study its history, 479; routes into, *map*, 12.  
 Chittenden, K. A. Color associations, 125.  
 Chloroform as an anaesthetic, 154.  
 Cholera, bacilli of, 253; inoculation, 439; microbe, 154, 196; prospects for England, 437; relation of rainfall and water-supply to, 532.  
 Christians on localization of functions in brain, 379.  
 Chronograph, improvements in, 305.  
 Cicada, periodical, in Massachusetts, 4; premature appearance of, 3; song-notes of, 225, 264.  
 Cincinnati scientific lectures, 359.  
 Circumnavigation of the globe, 311.  
 Civilization and eyesight, 195.  
 Chlorine, edible, introduced on Atlantic coast, 53.  
 Clapp-Griffiths Bessemer plant, 342.  
 Claypole, E. W., on paleozoic sediments of Pennsylvania, 221.  
 Clayton, H. H., on weather-changes of long periods, 304.  
 Clowes's Practical chemistry, 117.  
 Coal-beds in Africa, 59; of North Carolina, 548; problems in study of, 217.  
 Coca, 119.  
 Cocaine, influence of, on circulation, 224.  
 Cocos Islands, poisonous waters in, 369.  
 Cohesion, new theory of, 374.  
 Cold, action of, on microphytes, 393; waves, 557.  
 Coleoptera of America, 392, 454.  
 Colman on adulteration of food, 248.  
 Colonial possessions of European countries, 313.  
 Colonization in Algeria, 317.  
 Color and other associations, 82, 125, *ill.* 143, 156, *ill.* 242, 357; of the sky, 316.  
 Colorado, blunder in maps of, 485.  
 Colquhoun's Burmah, 158.  
 Columbia college philosophical society, 360.  
 Combustion, effect of heating air upon, 100.  
 Comets II and III of 1884, *ill.* 47; 1885 II (Barnard), 310; Biela's, 353; Brooks, 381; discovery of, during solar eclipse, 313; observations at Greenwich, 406; Tuttle's, 139, 159; two new, 517.  
 Competition and co-operation, 337.  
 Composite photography, *ill.* 507; portrait of officers of American association, *ill.* 167; portraiture, 163, 288.  
 Comte's philosophy, 354.  
 Congdon on a spider covered with fungoid growth, 409.  
 Congress, American forestry, 181; of Americanists, 240; international geological, 158; medical, 61.  
 Congressional committee on scientific bureaus, 536.  
 Cowen, H. W. A suggestion from modern embryology, 481.  
 Connecticut, height of land in, 4; legislation as to standard time, 62.  
 Consumption, causes of, 533; in Rhode Island, 512.  
 Consumptive period, 35.  
 Cooke's Scientific culture, reviewed, 114.  
 Cooley, M. E., on new smoke-burning device, 215; testing indicator-springs, 215.  
 Cooley system of creaming milk, 194.  
 Co-ordinates, polar, 306.  
 Cope, E. D., on brain and auditory organs of Peruvian surian, 224.  
 Cordoba observatory, 427.  
 Cornell university, mechanical engineering at, 406.  
 Cornell and Babes's Bacteria, reviewed, 77.  
 Corona, photographing solar, 131, 362, 387.  
 Corpuence, 325.  
 Cortright, E. L. The ship-railway between the Atlantic and Pacific, *ill.*, *map*, 38.  
 Corwin, cruise of, 435.  
 Coulter, J. M., on relation of ovary and perianth in development of dicotyledons, 226.  
 Cowles, E. H. and A. H., and Mabery, C. F., on aluminum alloys, 210.  
 Cozumalhuapa sculptures, 42.  
 Crab invasion, 133.  
 Cremation, 463, 534.  
 Cretinism, 484.  
 Crinoids, stalked, 138.  
 Cress, C. R. Electric measuring apparatus, 283.  
 Crystals in maple sirup, 530, 539.  
 Currents, equatorial, in solar and planetary atmospheres, 516; ocean, 140.  
 Cuscuta glomerata, inflorescence of, 225.  
 Cyclops, 453.  
 Cylinder condensation, 216.  
 D. W. M. The recent tornadoes, 252.  
 Dagincourt's Annuaire géologique, 159, 185.  
 Dakota group in Nebraska, 221; mounds, 222.  
 Dall, W. H. The arms of the octopus, 422; miocene deposits in Florida, 82; the native tribes of Alaska, 228.  
 Dana, J. D. Lower Silurian fossils at Canaan, N.Y., 283.  
 Dana, J. D., on Silurian fossils from New York, 220.  
 Danais Archippus, 409.  
 Dandelion, 193.  
 Danish expedition to east coast of Greenland, 448.  
 Darwin, Charles, *portrait*, 10; biography of, 276; statue to, 18.  
 Darwinism, public sentiment toward, 61.  
 Davenport tablet, *ill.* 564.  
 Davidson, G. Recent volcanic activity in the United States; eruptions of Mount Baker, 262.  
 Davidson, Thomas, 359, 429.  
 Davis, W. T., on Danais Archippus, 409.  
 Deaf-mutes, normal school for instructors, 361.  
 Death, 226.  
 Death-rates of blacks and whites, 491.  
 Deaths, recent, 30, 157, 158, 290, 359, 429.  
 Deep sea, light in, 19.  
 Denifle's Origin of mediaeval universities, reviewed, 460.  
 Development of limbs, 409.  
 Dewalque, G. International geological congress at Berlin, 520.  
 Dewey, J. Education and the health of women, 341.  
 Dinocerata, 454.  
 Dinosaurs and birds, 295.  
 Diseases, animal, 38; infectious, 299; of plants, 158.  
 Disinfectants, 485, 540; carbolic acid as, 566.  
 Disinfection, 328, 564.  
 Displacement of solar lines, 358.  
 Doctors, eminent, 571.  
 Dolley's Technology of bacteria investigation, reviewed, 97.  
 Dolphin, rare, 44.  
 Dome, floating, *ill.* 80.  
 Don, connecting, with Volga, 515.  
 Doolittle, C. L. A bright meteor, 497.  
 Doolittle's Practical astronomy, reviewed, 404.  
 Dorsey, E. B., on English and American railroads, 14.  
 Downey, J. O. Linguistic studies at the Siletz agency, 282.  
 Dorsey, J. O., on Siletz agency, 280.  
 Drainage, 20.  
 Draper, D., on effect of ozone, 302.  
 Drought and weathercocks, 528.  
 Dry-rot, 160.  
 Dunnington, F. P., on laboratory practice, 211.  
 Dutton, C. E. The latest volcanic eruption in the United States, 46; the theory of volcanoes, 253.

- E., O. St. Petersburg letter, 490, 492.  
 E., S. Hypnotism, 504.  
 Earth, shrinkage of crust of, 220.  
 Earthquake shocks, 540.  
 Earthquakes in Bengal, 159; Iceland, 51;  
 New Guinea, 117; at sea, 140, 190;  
 Spanish, 393; in Switzerland, 59; in  
 Victoria, B.C., 558.  
 EATON, H. W. Voos-Holtz electrical  
 machine, 338.  
 Ebbinghaus's Experiments in memory,  
 reviewed, 198.  
 Ebelien on compulsion, 395.  
 Eclipse, solar, of Sept. 9, 449.  
 Economic association, 339; essays, 111;  
 science and statistics, section of Ameri-  
 can association, 78, 235.  
 Edelweiss, cultivation of, 80; protection  
 of, 130.  
 Edinger on anatomy of nervous system,  
 407.  
 Edison, Thomas Alva, *portrait*, 145.  
 Edliefson on acute articular rheumatism,  
 396.  
 Education and health of women, 341.  
 Educational association of Nipon, 370;  
 meeting in Boston, 351.  
 Edwards's Batteries of North America,  
 reviewed, 337.  
 Edry mounds in Iowa, 44, 453.  
 Eggleston, T., on decay of building-stones,  
 14.  
 Egypt, stone implements in, 110.  
 Election excitement *versus* brains, 551.  
 Elective studies at Harvard, 499.  
 Electrical engineering school in Boston,  
 130; fire, ball of, 338; light industry,  
 government interference with, in Eng-  
 land, 537; lighting, 238; machine, 338,  
 363; measuring apparatus, 151, 333; rail-  
 way, 180; at Frankfurt, 44, 240; in New  
 York, 44, 148; wires underground, 373.  
 Electrotechnical handbook, 447.  
 Elevation of earth's surface, causes of, 387.  
 Elizabeth Thompson fund, 141, 144, 421.  
 Elkin's work at Yale college observatory,  
 96.  
 Elliott, E. B., on electric lighting, 338;  
 the silver question, 237.  
 Ellis's West African Islands, reviewed,  
 306.  
 Elting, L. on Dutch village-communities  
 of the Hudson, 250.  
 Embryology, suggestion from, 461.  
 Encken on unity of mental life, 452.  
 Encyclopædia Britannica on Greeley's ex-  
 plorations, 463.  
 Endowment for research, 144.  
 Engelhardt on Admiral von Wrangell, 417.  
 Engineers, American society of civil, 15.  
 England, geographical instruction in, 78.  
 Enslilage in England, 500.  
 Entomology, economic, in Illinois, 361; in  
 the national museum, 445.  
 Equatorial currents in solar and planetary  
 atmospheres, 516.  
 Eskimo compared with languages of  
 northern Asia, 300.  
 Ethical theory, types of, 136.  
 Ethnography of antarctic America, 92.  
 Ethnology, Mexican, 405.  
 Europe, geological map of, 377.  
 Evolution through attack and defence, 339.  
 Exploration in Indo-China, 44, 106.  
 Explosions as a means of propulsion, 374;  
 mine, 117.  
 Eye, development of, 44, 194.  
 Eyesight and civilization, 195.  
 Factory hours in England, 40.  
 Fanning's water-supply for New York, 72.  
 FARNSWORTH, P. J. The English spar-  
 row, 541.  
 Faroe Islands, 555.  
 FERNEL, W. The temperature of the  
 moon, 541.  
 Ferret, American, 44, 549.  
 Fertilization, cross, in *Campanula ameri-*  
*cana*, 225.  
 Fever, means of combating, 395.  
 Finland, 515.  
 Florida, formation of, 290.  
 Fish, mortality of, 373; sleep of, 506.  
 Fish-culture, advance in, 333; stations in  
 Switzerland, 160.  
 Fisher, C. H., on statistics of consumption  
 in Rhode Island, 512.  
 Flash language, American, 383.  
 FLATCHEE, Alice C. An average day in  
 camp among the Sioux, 385; an evening  
 in camp among the Omahas, 83.  
 Fletcher, A. C., on a Sioux camp, 233; war  
 customs of Omahas, 231.  
 Flexure of transit instruments, 205, 387.  
 Flood Rock explosion, 315, 325, 326, 335,  
 353, 431.  
 Flora of Nantucket and Martha's Vine-  
 yard, 363.  
 Florida, miocene deposits in, 62.  
 Pol, H., on evidence of tail in man, 92.  
 Food, application of science to production  
 and consumption of, 234.  
 Food-fishes, co-operation in preserving,  
 430.  
 Foods, human, 235.  
 Forbes on poisonous waters in Keeling  
 Islands, 369.  
 Forestry congress, 181, 312.  
 Formative force of organisms, 4.  
 Formosa, 280.  
 France, height in, 44, 523.  
 FRANKLIN, Christine L. Science in com-  
 mon schools, 359.  
 FRANKLIN, F. Newcomb's Political econ-  
 omy, 495, 533.  
 FRAZER, P. International geological con-  
 gress at Berlin, 540.  
 French academy in its origin, 105; growth  
 of, 1635-1885, 190; use of, 281; associa-  
 tion for the advancement of science, 99;  
 expeditions, 259.  
 Frost's Coca, 119.  
 Friction and lost work, 275.  
 Fright, effect of, 530.  
 Fritsch's Permian reptiles of Bohemia,  
 reviewed, 97.  
 Fruit, influence of locality upon, 193.  
 Fungus, 277.  
 Pangold growth on spider, 409.  
 G. An unreliable treatise on disinfect-  
 ants, 540.  
 G., A. Insular floras, 297.  
 GAGE, S. H. The limitations and value of  
 histological investigation, 226.  
 GAGE, S. H. and S. P. Aquatic respiration  
 of soft-shelled turtles, 323.  
 GAGE, S. H. and S. P., on aquatic respira-  
 tion of turtles, 325.  
 Gagem on the ascent of Popocatepetl, 390.  
 GALTON, F. Types and their inheritance,  
 308.  
 Galveston, deep water at, 215.  
 GANNETT, H. The magnetic declination  
 in 1728, 382.  
 GARDNER, F. jun. An Arizona natural  
 bridge, 44, 67.  
 Gas, natural, geology of, 42, 184; in Illi-  
 nois, 230; wells, 441; of Ohio, 230.  
 Gastric juice injected in blood of animals,  
 409.  
 Gee. See Stewart and Gee.  
 Geology, reviewed, 298.  
 Geographical education in England, 78,  
 538; news, 157; notes, 50, 71, 134, 311,  
 356, 380, 426, 448, 488, 515, 554; orthog-  
 raphy, reform in, 110; society of  
 Russia, 430.  
 Geographies, new series of, 557.  
 Geography, some works on, 298; study of,  
 349.  
 Geological annual, 159, 185; changes in  
 New South Wales, 330; congress at Ber-  
 lin, 158, 333, 376, 530, 540; history, con-  
 tradictions in, 41; map of Europe, 377;  
 survey of Canada, 521.  
 Geology and geography section of Ameri-  
 can association, 219; of Japan, 15; Ohio,  
 257; natural gas, 42, 184; recent progress  
 in, 317; some works on, 398; of the Vir-  
 ginias, 17.  
 German physicians, fourth congress of,  
 395; possessions in Africa, 40; univer-  
 sities, *map*, 244.  
 Germination studies, 224.  
 Germs, effect of sunlight on, 475.  
 Gestation in horned toad, 183.  
 Gilbert, G. K., on old shore-line of Lake  
 Ontario, 222.  
 Gilchrist trust, lectures under, 383.  
 GILL, T. Man's ancestry, 162.  
 Gillman, H., on burial customs, 333.  
 Ginkgo, etymology of, 84.  
 Ginkgo-tree, 4, 44, 108, 343.  
 Girard on composition of wheat grain, 415.  
 Glacial action in Canada, 388; pendulum  
 in Switzerland, 42; region, Norwegian,  
 135.  
 Glaciation of Lackawanna valley, 221.  
 Glaciers, 44, 56; Swiss, 42, 59.  
 Glass, explosion of, 453; toughened, 393.  
 Goethe and vegetable morphology, 150.  
 Gold in Borneo, 119; near Constantinople,  
 572.  
 Goodale's Physiological botany, reviewed,  
 471.  
 GOODE, G. B. The care of pamphlets, 337;  
 recent Challenger monographs, 536.  
 Gottsche's travels, 119.  
 Government, city, 236; science, 536; and  
 the scientific bureaus, 330.  
 Granddier on gigantic bird of Madaga-  
 scar, 418.  
 Gravity determinations in and near Japan,  
 319.  
 Gray, Dr. Asa, 160; his seventy-fifth birth-  
 day, 44, 465, 477.  
 Gray's Explorations of east coast of  
 Greenland, 448.  
 GRAY, E. P. Calendar reform, 408.  
 Great Basin region, reconnaissance in, 368.  
 Greely, A. W., arctic explorations of, 423;  
 rescue of, 278.  
 Greenland, east coast of, visited, 448; ex-  
 ploration of, 558; native iron in, 280.  
 Guatemala, pre-Columbian history of, 514.  
 Günther's Geophysics, reviewed, 509.  
 Gutta-percha, substitute for, 160.  
 HAGEN, H. A. An old work on political  
 economy, 562.  
 HAGUE, A. The decay of the obelisk, 510.  
 Haight, S. S., on accurate standards for  
 surveyors' chains, 215.  
 HALL, H. Ethnography of antarctic Amer-  
 ica, 92.  
 Hale, H., on the Blackfoot tribes, 436.  
 HALL, A. Height of land in Connecticut, 4;  
 Reineke Fuchs in political economy, 553.  
 HALLETT, H. S. Exploration in Indo-  
 China, 44, 106.  
 Hamy's Mexican ethnology, reviewed, 405.  
 Hann, J., on the laws of temperature in  
 the Austrian Alps, 459.  
 Hanno's voyage, 468.  
 Hare. See Woodhead and Hare.  
 Harkness, W., on flexure of transit in-  
 struments, 305, 387; the silver question,  
 237.  
 HARRINGTON, M. W. Lost rivers, 205.  
 Harrison, Sir J. P., on the great toe, 432.  
 Hartwell, E. M., on physical training in  
 Germany, 534.  
 Harvard college observatory, 536; bequest  
 to, 1, 384; elective studies at, 499.  
 HAYWARD, S. Color and other associa-  
 tions, 44, 388.  
 Hazen, H. A., on hygrometers and psy-  
 chrometers, 367.  
 Health, public, 38; chemistry in the ser-  
 vice of, 208; maxims of, 75.  
 Heat, obscure, 443.  
 Hehn and Stallybrass's Wanderings of  
 plants and animals, reviewed, 426.  
 Height in France, 44, 523.  
 HELMHOLTZ, Angelo. The classification  
 and paleontology of the U. S. tertiary  
 deposits, 83.  
 Heim's Glaciers, reviewed, 56.  
 Helix cantiana, 418.  
 Hensley's Botany of the Challenger, re-  
 viewed, 297.  
 HENSHAW, G. C. The English sparrow, 498.  
 HENSHAW, S. Coleoptera of America, 454.  
 Henshaw's List of American Coleoptera,  
 382.  
 HERMICK, F. H. An abnormal black bear,  
 44, 343; carnivorous habits of the  
 striped squirrel, 338.  
 Hicks, H., on bone-caves in Wales, 53.  
 Hicks, L. E., on Dakota group in Nebras-  
 ka, 221.  
 HIGGINSON, T. W. American flash lan-  
 guage again, 383.  
 HILGARD, E. W. Absorption of mercurial

- vapor by soils, 497; the classification and paleontology of the U. S. tertiary deposits, 44.
- Hilgard, J. E., and his work, 139.
- Hill, C. S., on statistical analysis, 237.
- Histological investigations, 236.
- Histology and microscopy section of American association, 227.
- Historical association, 249.
- HITCHCOCK, C. H. The latest slides in the White Mountains, 306; the recent landslide in the White Mountains, *ibid.* 84.
- HITCHCOCK, E., on Mastodon skeleton, 450.
- Hoek on the Challenger Cirripedia, 527.
- Hog cholera, 522.
- Hogg, A., on deep water at Galveston, Tex., 215.
- HOLDEN, E. S. The care of pamphlets, 296; color and other associations, 242.
- Holden, E. S., 398.
- Hollick on Mitchellia repens, 409.
- Hooker, Sir J., 537.
- Hooper's Cruise of the Corwin, reviewed, 425.
- Hornaday's Travels in Borneo, reviewed, 472.
- Horse-breeding, 447.
- Hough, G. W., on improvements in printing-chromograph, 235.
- Howe's Atlas of biology, reviewed, 462.
- Howe, H. M. The Clapp-Griffiths Bessemer plant, 342.
- Hoyt, J. W., on re-organization of U. S. executive departments, 237.
- HUBBARD, G. G. The Kongo Free State, *map*, 163.
- Hubbard, G. W., on statistics of negroes, 237.
- Hudson Bay expedition, 98, 350.
- HUGGINS, W. An attempt to photograph the corona, 362.
- Huliva's Water-supply of Breslau, 34.
- Humanism in study of nature, 64.
- Hunt, E. M., on sanitary and statistical nomenclature, 512.
- Impers on lungen gymnastik, 406.
- Hurricanes, West Indian, 360.
- Huxley, T. H., 334, 537; on Darwin, *portrait*, 10.
- HYATT, A. Cruise of the Arethusa, 384.
- Hybridization of plants, 234.
- Hydrographic surveys, 118.
- Hydrophobia, 312, 398, 467; as a nervous disease, 308.
- Hygiene, 278; exhibition of, 36.
- Hygrometers, 387.
- Hygrometry in the signal service, 536.
- Hypnotism, 280, 504.
- I., H. C. Star catalogues, 408.
- Icebergs and temperature of sea, 118.
- Iceland, 337; earthquake in, 51.
- Illinois, economic entomology in, 261.
- Immortality in modern thought, 126.
- Incandescent lamps on railways, 153.
- India, meteorites in, 333; names of mountains in, 280.
- Indian commerce, 180; superstition, 50.
- Indiana state academy of sciences, 302, 460.
- Indicator springs, testing, 215.
- Indo-China, exploration in, *ibid.* 106.
- Industries, Alaskan, 357, 427; Siberian, 348.
- Infectious diseases, 290.
- INGERSOLL, E. Canadian plains, 565; the plains of British America, 468.
- Ingersoll, E., on the effect of settlement of America upon its wild animals, 416.
- Inoculation, anthrax, 120; for yellow-fever, 535.
- Inscription rocks of Monhegan, 124.
- Insular flora, 297.
- Insurance, fire, 136.
- International convention of science associations, 209; geological congress, 128, 333, 376, 520, 540; inventions exhibition, in London, 383, 429; medical congress, 61; sanitary conference at Rome, 101.
- Iron industry of Russia, 452; native, in Greenland, 280; ores, 290.
- Iroquois clans, 231.
- Irrigation of the interior of New South Wales, 351.
- Irving and Van Hise on crystalline form of quartz grains, 140.
- Island, new, in Pacific Ocean, 535.
- Italian African society, 50.
- Italy, area of, 135.
- J., J. Illustrations of recent Italian psychology, 413; productiveness, 479; racial characteristics of Jews, *ibid.* 322; some reaction-time studies, 458.
- J. W. Experiments in memory, 198; Lipp's psychological studies, 308.
- JACQUES, W. W. Underground wires, 6.
- JAGNAD's Mineralogy, reviewed, 16.
- JAMES, E. J. Newcomb's Political economy, 470, 495, 517; recent land legislation in England, 455.
- JAMES, J. P. An abnormal Rudbeckia, *ibid.* 108; the English sparrow, 497.
- James, J. F., on leaves of the pitcher-plant, 296.
- Japan, agriculture in, 314; atlas of, 558; geology of, 13; gravity determinations in, 319.
- Japanese literature, Roman alphabet in, 158; patent law, 79.
- JASTROW, J. Composite portraiture, 165, 283; infant psychology, 435.
- JAVA, puppet-shows in, 251.
- Jenkins, E. H., on method of estimating phosphoric acid, 248.
- Jewish quarter in Rome, destruction of, 60.
- Jews, racial characteristics of, *ibid.* 322.
- Joest's Around Africa, reviewed, *ibid.* 114.
- Johns Hopkins university, physics at, 547.
- Johnson's Surveying, reviewed, 356.
- Johnson, H. N., bequest of, 557.
- Johnston, H. H., on an African smithy, *ibid.* 347.
- Journalists, reputation of Washington, 301.
- Jumbo, 362.
- K. Physics at Johns Hopkins, 547.
- Kann, H., on hypnotism, 280.
- Kane's European butterflies, 535.
- Keeling Islands, poisonous waters in, 369.
- Kittler's Electrotechnical handbook, reviewed, 447.
- KOBEIT, W. Colonization in Algeria, 317.
- Körsel's Comfort and longevity, reviewed, 37.
- Kolbe, C. W., on laboratory practice, 212.
- Kongo, 177; climate of, 100; conference, history of, 157; expedition to, 79; Free State, *map*, 163, 244.
- Korean curios, 3.
- Korthals. See Bréon and Korthals.
- Kowak River, exploration of, 380.
- Krakatoa eruption, results of, *ibid.* 391.
- Krause's Biography of Darwin, reviewed, 276.
- KUNZ, G. F. Korean curios, 3.
- KUNZ, G. F., on minerals from new localities, 222; petrified eyes, 410.
- Kurile Islands, sea-level of, 130.
- Labor statistics of Massachusetts, 380.
- Laboratory practice, initiatory work for, 211.
- La Fleische, F., on relationship among Omahas, 222.
- Land legislation in England, 455.
- Land-slide in the White Mountains, *ibid.* 84.
- Langley, J. W., on chemistry, 211; necessity of knowledge of molecular physics to teach chemistry, 212.
- LANGLEY, S. P. False report of the fall of a meteorite in western Pennsylvania, 336.
- Langley, S. P., on invisible radiations, 306; temperature of moon's surface, 412, 443.
- Lankester, E. R., 537.
- Lapland, height of mountains in, 515.
- Laiths as instrument of precision, 213.
- Latitude, change in, 118.
- Latour's Chaleur animale, 535.
- Laughlin's Study of political economy, reviewed, 534.
- Lea, sanitary condition of, 334.
- LECONTE, Joseph. Earthquake shocks more violent on the surface than in mines, 540; immortality in modern thought, 126; the results of shad propagation on the Atlantic coast, 530.
- Legislation, land, in England, 455.
- Lehmann's Consumptive period, 35.
- Lena polar station, 492.
- LESLEY, J. P. Address before American association, 168.
- Lepidoptera, collection of, 50.
- Lettuce, 193.
- Lewis, T. H. Effigy mounds in Iowa, *ibid.* 433.
- Lick observatory, *ibid.* 186, 398, 428, 556; crown disk for, 181; future of, 181.
- Liebermeister, C., on infectious diseases, 290.
- Light in deep sea, 19; method for determining unit of, 183.
- Lightning, injury to monument by, *ibid.* 232; and the Washington monument, 383.
- Limbs, development of, 409.
- Linguistic studies, 292.
- Lipp's Psychological studies, reviewed, 308.
- Lockington, W. N., on causes of elevation of earth's surface, 387.
- Locusts, injury by, 236.
- Logic, study of, in scientific schools, 242.
- Lomb prizes, 334.
- London fog, 494.
- Longevity and comfort, 37.
- Longitude signals to Mexico, 405.
- Longitudes, coast-survey system of, 474.
- Loomis, E. Contributions to meteorology, 62; low-pressure areas, 79.
- Luce-Possari's Ethnography of antarctic America, reviewed, 92.
- Lumsden on Afghan tribes, *ibid.* 69.
- Lungen gymnastik, 406.
- LUQUER, T. T. P. Color and other associations, *ibid.* 337.
- LUXOR, excavation of temple of, *ibid.* 570.
- LYMAN, B. Smith. The etymology of ginkgo, 84.
- M. Laying a cable, 545.
- M., A. The mind-cure, 543.
- M., C. S. Has man a tail? 92.
- Mabery, C. F., on laboratory practice, 211. See also Cowles and Mabery.
- McAdams, W., on Indian mounds in Dakota, 232.
- McBRIDE, T. H. Vegetable morphology a century ago. — Goethe, 130.
- McDonald on shad propagation, 433.
- Macedonia, nationalities of, 451.
- McFARLAND, W. Flood Rock explosion, 431.
- McGill college, science at, 374.
- McINTOSH, W. C. Phosphorescence of marine animals, 295.
- McKendrick on the action of cold on microphytes, 393.
- McMATH, R. E. Velocity and sediment, 2.
- Mad stone, 123, 163.
- Madagascar, gigantic bird of, 418.
- Magazines, scientific articles in, 120, 130, 490.
- Magnetic constants of steel cruisers, 361; declination in 1728, 244, 283.
- Magnetism, terrestrial, in Russia, 134.
- Malthus and his work, 567.
- Mammals, acclimation of, 402.
- Man, ancestry of, 162; evidence of tail in, 81, 92; and mastodon, 375.
- Mangrove mud in Brazil, 130.
- MANX, B. P. The care of pamphlets, 467, 432.
- Map of Europe, geological, 377.
- Maple sirup, crystals in, 530, 539.
- Maps of North America, inaccuracy of, 539.
- Marsh, O. C., on Dinocerata, 454; size of brains of extinct vertebrates, 360.
- Martha's Vineyard, cable to, 545; flora of, 363.
- Martin, Miss L. J., on laboratory practice, 212.
- Martineau's Types of ethical theory, reviewed, 136.
- Massachusetts labor statistics, 380; teachers' associations, 450.
- Mastodon and man, 375; skeleton near Geneva, N.Y., 450.



- Mathematical prize, 229; research, comparative activity of different nations in, 181.
- Mathematics and astronomy section of American association, 304.
- Matter, properties of, 96.
- Maxwell's demons, 83.
- Measurements, standards of, 215.
- Mechanical engineering at Cornell, 406; methods of teaching, 216; section of American association, 78, 214.
- Medieval universities, 460.
- Medicine in the middle ages, *ill.* 40.
- Mees, C. L., on laboratory practice, 212.
- Meigs, M. C. Ball of electric fire, 338; the Washington monument and the lightning stroke of June 5, 63.
- Melon's From Palermo to Tunis, reviewed, 447.
- Memory, experiments in, 198.
- MENDENHALL, T. C. The explosion at Flood Rock, 326.
- Mendenhall, T. C., on reaction time, 387; voltmeters, 387.
- Mental life, unity of, 432; suggestion, 431.
- Mercurial vapor, absorption of, by soils, 497.
- Metallurgy, progress in, 525.
- Meteoritic iron from West Virginia, 563.
- Meteorites, false report of, 325, 336; in India, 333.
- Meteorological notes, 556; observations, curious, 279; observatory on Ben Nevis, *ill.* 459; observatory, floating, 117; records, telemetric aid to, 194; station in New Guinea, 159.
- Meteorology in New England, 557.
- Meteors abundant Aug. 10, 142; Biela, 489, 496, 519, 556; bright, 497; fall of, at sea, 59; November, 279, 428.
- Mexican ethnology, 465.
- MYER, O. The classification and paleontology of the U. S. tertiary deposits, 143.
- MICHEL, J. The English sparrow, 541.
- Michie's Life of Gen. Upton, reviewed, 404.
- Michigan university, biology in, 350.
- Micro-biology, recent contributions to literature of, 134.
- Microbe, cholera, 154, 196.
- Microphytes, action of cold on, 393.
- Micropterus salmoides, *ill.* 243.
- MILLER, G. S. Color and other associations, 243.
- Mimicry among Mollusca, 9.
- Mind-cure, 543.
- Mineral products of United States, 99; resources of Askabad, 359.
- Minerals from new localities, 222.
- Mines, earthquake shocks in, 540; loss of life in, 538.
- MINOT, C. S. Color associations with the months, 82; the formative force of organisms, 4; a new endowment for research, 144; physiology of the brain, 521.
- Minot, C. S., on death, 226; morphology of supra-renal capsules, 226; number-habit, 223.
- Miocene deposits, 82.
- Mitchella repens, 409.
- Mirage on Lake Wettern, 158.
- Molecular physics and theoretical chemistry, 212.
- Mollusca, mimicry among, 9.
- Monhegan, inscription rocks on, 124.
- Monk Island, 535.
- Moon's surface, temperature of, 412, 443, 541.
- Morphology, vegetable, 130.
- Morris, C., on evolution through attack and defence, 339.
- Mosquitoes *vs.* trout, 197.
- Monde in Dakota, 232; effigy, in Iowa, *ill.* 453.
- Mount Baker, eruptions of, 392.
- Mountain structure, trend and crustal surplusage in, 220.
- Mountains in Lapland, height of, 515.
- Mourning, forms of, 407.
- Murray on mosquitoes *vs.* trout, 197.
- Museum economy, 82; educational, of vertebrates, 223.
- MYERS, D. Meteoric activity, Aug. 10, 142.
- Nantucket, cable to, 545; flora of, 323.
- National academy of sciences, 419, 443, 449; chemical laboratory suggested, 536; university, 509, 539.
- Natural history, standard, 74.
- Nautical almanacs, amalgamation of, 160.
- Navigation, aerial, 30.
- Nebula in Andromeda, new star in, 247, 310, 359, 473; spectrum of, *ill.* 362, 333, 359.
- Negroes, statistics of, 237.
- Nervous system, anatomy of, 407.
- Neumann and Pertsch's Physical geography of Greece, reviewed, 299.
- New England meteorological society, 490; meteorology in, 557.
- New Grenada, resources of, 314.
- New Guinea, earthquakes in, 117; German-English boundaries in, 61.
- New Princeton review, the, 551.
- New South Wales, geological changes in, 320; irrigation of the interior of, 551.
- New York, convocation of university of, 61; electric railway in, *ill.* 148; microscopical society, 410; water-supply, 72.
- NEWCOMB, S. Newcomb's Political economy, 495.
- Newcomb, S., on the astronomical day, 444; Political economy, 470, 425, 517, 538.
- Newton, Hubert A., *portrait*, 161; effect of small bodies passing near a planet on planet's velocity, 304.
- Nice, astronomical work at, 330; observatory, floating dome of, *ill.* 80.
- Nichols, E. L., on spectrum of unclouded sky, 207.
- NICHOLS, W. R. Chemistry in the service of public health, 208.
- Nippon central educational association, 370.
- Nitrogen, determination of, 249.
- Nomenclature, chemical, 368; river, 321; sanitary, 512.
- Nordenfellt submarine boat, *ill.* 394.
- North Carolina coal-fields, 548.
- Norway, northern, 515.
- Norwegian fjords, 280; glacial region, 135.
- November meteors, 279, 428.
- Number-habit, 223.
- Nuremberg, exhibition of metal-work at, 138.
- O. E. The swindling geologist, 453.
- Obelisk, the decay of, 510.
- Observatory, floating, meteorological, 117.
- Octopus, arms of, 432.
- Ohio geology, 257.
- Ohm standards, 436.
- Oil-wells of Ohio, 230.
- Omaha, evening in camp among, 88; relationship among, 232; war customs of, 331.
- Ontario, Lake, old shore-line of, 222.
- Orinoco, expedition on, 135; travels on, 352.
- Orion, new star in, 556, 558.
- Ornithology, economic, 78, 259.
- Orthography, geographical, 110.
- ORTON, E. Problems in the study of coal, with a sketch of recent progressive geology, 217.
- Orton, E., on Ohio gas and oil wells, 220; Report on Ohio geology, reviewed, 257.
- OSBORN, H. L. Mimicry among marine Mollusca, 9.
- Ovary of dicotyledons, 236.
- Oxidation processes in animal tissues, 508.
- Oxus, old bed of, 516.
- Oxygen, liquefaction of, *ill.* 51; manufacture of, 99.
- Oysters, culture of, 465; natural enemies of, 392; propagation and cultivation of, 467.
- Ozone in the atmosphere, 302.
- Paine bequest, 1, 384.
- Paint-cup, Indian, 3.
- Palmer, G. H., on elective studies at Harvard, 499.
- Palmer's Edible and poisonous fungi, reviewed, 277.
- Palpi of insects, 475.
- Pamphlets, care of, 337, 386, 407, 432.
- Panama canal, 421, 503.
- Paneth, J., on irritability of cerebral cortex, 521.
- Paper blocks for masonry, 484.
- Parallax of 40  $\epsilon^2$  Eridani, 358.
- Paris exhibition of industry, 198; telephone in, *map*, 110.
- Pasteur and hydrophobia, 312, 398, 467; Newark mad dog, 508.
- Patagonia, Argentine expeditions into, 157.
- Patent law, Japanese, 79.
- PATRIOT. The Kongo Free State, 244.
- PAUL, H. M. The Biela comet meteor-stream, 519; Flood Rock explosion, 431; recent gravity determinations in and near Japan, 519; reform in our calendar, 334; stars in rapid motion, 458; temperature of the moon's surface, 419; timing the Flood Rock explosion, 325.
- PEABODY, F. G. Types of ethical theory, 136.
- Pear-blight, 225.
- Peirce, C. S., and U. S. coast survey, 158.
- Pennsylvania geological survey, 41, 100; paleozoic sediments of, 221.
- Peptone, absorption and assimilation of, 116.
- Perez on infant psychology, 435.
- Perkins, G. H., on stoneaxe in Champlain valley, 233.
- Personal equation, 449.
- Perthes' services to geography, 396.
- Peruvian reptiles, 97.
- Petrified eyes, 410.
- Petroleum in Caucasus, 313.
- Philadelphia academy of natural sciences, 339, 363, 387, 409, 557.
- Philology, the new, 366.
- Philosophy, the new, 474.
- Phosphorescence of marine animals, 295.
- Phosphoric acid, method of estimating, 248.
- Photographing solar corona, 131, 362, 387.
- Photography, books on, 426; composite, *ill.* 507; prize in, 476; stellar, 443.
- Photometers, 473.
- Phrynosoma, gestation in, 185.
- Physical science, lectures on, 96; text-books, 96; training in Germany, 534.
- Physicians, fourth congress of German, 365.
- Physics, elementary, 96; at Johns Hopkins, 547; section of American association, 206.
- PICKERING, E. C., on stellar photography, 443.
- PICKERING, W. H. An attempt to photograph the solar corona without an eclipse, 131, 362, 387; the color of the sky, 316; a method for determining the unit of light, 183.
- PICKERNELL, F. A. The electric railway in New York, *ill.* 148.
- Pitcher-plant, leaves of, 296.
- Pilot chart, improvements in, 279.
- Plains of British America, 468; Canadian, 565.
- Planet, velocity of, 204.
- Plants, diseases of, 156, 203; hybridization of, 224.
- Playfair, Sir L., on state aid to science, 325.
- Plunkett's women, plumbers, and doctors, reviewed, 57.
- POHLMAN, J. An American Silurian scorpion, *ill.* 183.
- Point Barrow station, 446.
- Poisonous meat, 419.
- Polar station on the Lena, 492.
- Poleck on dry-rot, 160.
- Polsjaeff on the Challenger sponges, 327.
- Political economy, method of teaching, 534; Newcomb's, 470, 425, 517, 538; old work on, 562; recent progress in, 411; Reineke Fuchs in, 583; science in France, 482; 'scientists', 253.
- Pollution, river, 27.
- Polygonum, hybridity in, 180.
- Popocatepetl, ascent of, 300.
- Portolano, Italian, of the sixteenth century, 250.

- Portugal, cartographic work in, 59.  
 Portuguese children, songs of, 311.  
 Potash fertilizers, 260; method of estimating, 249.  
 Potassic hydrate and alum, reaction between, 211.  
 POTTER, W. L. Untimely death of a chipping-sparrow, 63.  
 POWELL, E. P. Color and other associations, 338; science in common schools, 336.  
 Prehistoric remains in Switzerland, 20.  
 Prescott, A. B., on laboratory practice, 211.  
 President, message of, 507; and Professor Agassiz, 302.  
 Pressure-motor, universal form of, 214.  
 Prices from 1873 to 1884, 365.  
 Prize of Berlin society for advancement of manufacture, 119; mathematical, 259; in photography, 476.  
 Prizes, Lomb, 534.  
 Proceedings of societies, 330, 363, 387, 400.  
 Productiveness, 479.  
 Prony-brake, 216.  
 Psychological research, western society for, 75.  
 Psychological studies, 308.  
 Psychology, advances in French, 398; infant, 435; Italian, 413.  
 Psychrometers, 387.  
 Publications, new, 340, 364, 388.  
 PUMPELLY, R. Soils and health, 30.  
 Puppet-shows in Java, 441.  
 Puritan, yacht, 441.  
 PUTNAM, F. W. Man and the mastodon, 375.  
 Putorius nigripes, 441.  
 Quarantines, 23.  
 Quartz grains in sandstones, 140.  
 Quaternary deposits of Illinois, 221.  
 R., C. Recent progress in political economy, 411.  
 R., R. An archeologist in trouble, 386.  
 Radiations, invisible, 306.  
 Railways in Burma, 552; electric, 180, 440; in New York, 441; English and American, 14; incandescent lamps on, 133.  
 Rainfall, relation of, to cholera, 532.  
 Randolph, L. S., on stay-bolts in boilers, 214.  
 RATHBUN, R. A crab invasion, 135.  
 RAUCH, J. H. Chicago-River pollution, 27.  
 Raleigh on civilization and eyesight, 195.  
 Reaction time, 387, 438.  
 REED, Sir E. J. The forms of ships, 52, 569.  
 Reemelin, C., on city government, 236.  
 Refraction, terrestrial, 333.  
 Reifensnyder, Elisabeth, medical work of, in China, 441.  
 RELLY, F. W. How to deal with yellow-fever, 25.  
 REMSEN, Ira. City wells, 32.  
 Remsen's Organic chemistry, reviewed, 76.  
 Renal capsules, morphology of, 226.  
 Respiration in turtles, 225, 235.  
 Rheumatism, acute articular, 396.  
 Rhode Island, consumption in, 512.  
 Richards's explorations in East Africa, 311.  
 RICHARDS, Ellen H. Science in common schools, 289.  
 RILEY, C. V. Periodical cicada in Massachusetts, 4; premature appearance of the periodical cicada, 3; the song-notes of the periodical cicada, 264.  
 RILEY, C. V., gift of, to the national museum, 441; on injury by locusts, 236; silk-culture in the United States, 236; song-notes of periodical cicada, 225.  
 River nomenclature, 321.  
 Rivers, lost, 265.  
 Rock-salt surface, 307.  
 Rockwell, C. H., on almschar observations, 306.  
 Rodrigues, J. C., on the Panama canal, 503.  
 Rogers, W. A., on standards of measurement, 215.  
 Rogers's Geology of the Virginias, reviewed, 417.  
 Robb's Hygiene, reviewed, 278.  
 Rome, international sanitary conference at, 101.  
 Rougerie's apparatus for artificial winds, 492.  
 Royal society of London, entrance to, 351, 407, 486; officers of, 337; presidency of, 442.  
 Rudbeckia, abnormal, 441, 103.  
 RUMKIT, C. Color associations with the months, 441, 142.  
 RUSSELL, I. C. North Carolina coal-fields, 548.  
 Russell, I. C., reconnaissance of, in the Great-Basin region, 58.  
 Russia, geographical society of, 430; iron industry of, 430; terrestrial magnetism in, 134; weather in, 430.  
 RYDER, J. A. A new system of oyster-culture, 465; the swimming habits of the sunfish, 441, 103.  
 Ryder, J. A., on development of limbs, 409.  
 S., C. A. The magnetic declination in 1728, 244.  
 S., M. A. Doctors and their work, 571; fourth congress of German physicians, 395.  
 S., O. T. The spectrum of  $\gamma$  Cassiopeiae, 386; spectrum of the great nebula in Andromeda, 441, 262, 333, 336.  
 St. Petersburg society of naturalists, 492.  
 SALISBURY, R. D. The swindling geologist, 408.  
 Salmon, D. E., on virus of hog cholera, 532.  
 Salmon, D. E., and Smith, T., on new chromogenic bacillus, 236.  
 SAMSON, F. A. A mad stone, 123.  
 San Juan Testimonial, remains at, 231.  
 Sanborn, J. W., on customs of Senecas, 233.  
 Sanitary condition of the Lea and Thames, 34; conference, 101; nomenclature, 512.  
 Sanitation, household, 57; and science, 21.  
 Saurian, brain and auditory organs of, 224.  
 SAWYER, E. F. A new variable, 498.  
 SCHMIDT, R. D. The Biela meteor, 519.  
 Schley and Soley's Rescue of Greely, reviewed, 278.  
 Schmitz's Consumptive period, reviewed, 35.  
 School of botany, 21; for electrical engineering, 150.  
 Schools, science in, 326.  
 Schubert on origin of cereals, 73.  
 Schuyler, E., on materials for American history in foreign archives, 250.  
 Schwatka's Nimrod in the north, reviewed, 554.  
 Science in common schools, 289, 336; and the state, 325.  
 Science, removal of, to New York, 384.  
 Scientific articles in the general magazines, 490; bureau, congressional committee on, 536; and the government, 530; culture, 114; titles, 464.  
 Scorpion, American Silurian, 441, 87, 441, 183, 184.  
 Scum, bisexuality of, 224.  
 Sea, temperature of, 115.  
 Sea-level, oscillations of, 120.  
 SEARS, J. H. Crystals in maple sirup, 520.  
 Sediment and velocity, 2.  
 Seismology, 433; in the United States, 491.  
 Selenium, its sensitiveness to light, 359.  
 Senecas, customs of, 233.  
 Settlement, effect of, on wild animals, 416.  
 Shed propagation on Atlantic coast, 433, 520.  
 SHALER, N. S. Humanism in the study of nature, 64.  
 Sharp, B., on development of the eye, 441, 194.  
 Shaw school of botany, 475.  
 Ship-railway, Tehuantepec, 441, map, 33.  
 Ships, forms of, 52, 569.  
 Shrinkage of earth's crust, 220.  
 SHUFFELDT, R. W. The Mexican axolotl and its susceptibility to transformations, 363; probable period of gestation in the horned toad, 185; Zoolian concep-
- tions of animal forms as shown in pottery, 441, 262.  
 Siberian industries, 348; interest in geographical explorations, 516; railway, 516.  
 Sibirskoff's journey in Siberia, 157.  
 Siemens, F., on toughened glass, 293.  
 Siletz agency, 230.  
 Silk-culture, 194; in the United States, 236.  
 Silurian fossils from New York, 220; at Canaan, N.Y., 283; scorpion, 441, 87, 441, 183, 184.  
 Silver question, 237.  
 Sioux, in camp among, 233, 385.  
 Skulls of assassins and men of note, 441, 72.  
 Sky, color of, 316; spectrum of, 307.  
 SLACK, F. M. Color and other associations, 156.  
 Slave trade, 441.  
 Sleep, activity of mind during, 344; of fishes, 506.  
 Slides in the White Mountains, 441, 84, 306.  
 Small pox in Canada, 538; as a Canadian disease, 373.  
 Smith, B., 140.  
 SMITH, T. Woodhead and Hare's Pathological mycology, 316.  
 Smith, T. See Salmon and Smith.  
 Smithsonian price-list of publications, 535.  
 Smoke-burning device, 215.  
 Societies, calendar of, 340, 364, 410; learned, use and abuse of, 351; proceedings of, 339, 363, 387, 409; scientific, of America, 536.  
 Society for promotion of agricultural science, 2, 73, 193.  
 Soil, freezing of, 314.  
 Soils and health, 30.  
 Solar ring, 159.  
 Sorghum, extraction of sugar from, 534.  
 South Kensington chair of natural history, 382.  
 SOUTHWICK, E. B. The ginkgo-tree, 343.  
 Spanish earthquakes, 393.  
 Sparrow, English, 416, 478, 497, 530, 541, 563; untimely death of, 63.  
 SPAULDING, R. The scenery of Arizona, 44.  
 Spectral analysis of atmospheric elements, 449.  
 Spectro-photometer and ophthalmospectroscope, 308.  
 Spectrum of  $\gamma$  Cassiopeiae, 386; of nebula in Andromeda, 441, 262, 333, 336; of sky, 307.  
 Sprinklers, automatic, 215.  
 Squal, singular, 450.  
 Squirrel, habits of, 338.  
 Stactites, 343.  
 Stallybrass. See Hehn and Stallybrass.  
 Standards for surveyors' chains, 215.  
 Stanley's Kongo, reviewed, 441, 177.  
 Star catalogues, 408; new, in Orion, 556, 558.  
 Stars, comparison, 427, 474; in rapid motion, 463.  
 State aid to science, 325; science and, 325.  
 States Island natural science association, 409.  
 Statistical analysis, 237.  
 Statistics of negroes, 237; vital, tables for, 531.  
 Stellar magnitudes, 427; photography, 448.  
 Steinen's explorations of the King, 133.  
 Steiner's Physiology of the brain, reviewed, 521.  
 Stepniak's Russia under the tzars, reviewed, 355, 478.  
 STERNBERG, G. M. Disinfection, 328, 564; the international sanitary conference at Rome, 191.  
 STEVENS, W. LeC. Voss-Holtz electrical machine, 363.  
 Stewart and Gee's Elementary physics, reviewed, 96.  
 STONE, G. H. The inscription rocks on the island of Monhegan, 124.  
 STONE, W. E. The ginkgo-tree, 44.  
 Stone implements in Egypt, 119.  
 STORER, F. H. A mad stone, 163.  
 Stratigraphy, comparative, 220.  
 STRONG, E. E. The Caroline Islands, map, 287.  
 Struve, O., on object glass made by Clark, 306.

- Starkevian, E. L., on dandelion, 193; germination, 224; hybridization of plants, 224; influence of locality on fruit, 193; lettuce, 193.
- Submarine boat, *42*, 394.
- Sugar, extraction of, 524; industry, 453.
- Sumatra, petroleum in, 40.
- Summer's Economic essays, reviewed, 111.
- Sunfish, swimming habits of, *42*, 103.
- Sunlight, effect of, on germs, 473.
- Surveys, hydrographic, 118.
- SYNONYMUS, F. *Annuaire géologique universel*, 185.
- Swindling geologist, 408, 453.
- Swiss fish cultural stations, 160; glaciers, growth of, 59.
- Switzerland, earthquakes in, 59; glacial pendulum in, 42; prehistoric remains in, 50.
- Tail in man, evidence of, 81, 92.
- Tait's Lectures on physical science, reviewed, 90; Properties of matter, reviewed, 90.
- Tamias striatus, 338.
- TARR, R. S. The English sparrow, 416, 530, 563; natural enemies of oysters, 392.
- Tauri (a), occultations of, 489.
- TAUSTIA, P. W. Prices from 1873 to 1884, 365.
- Taylor, W. B., on shrinkage of earth's crust, 230.
- Teachers' association, 450; school of science in Boston, 477.
- Teaching as a profession, 529.
- Tehuantepec ship-railway, *42*, map, 33.
- Telegraph, use of, in England, 537.
- Telephone in Paris, map, 110; use of, for military purposes, *42*, 529.
- Telephonic vibrations, 476.
- Telescopes, small versus large, 381.
- Telpher line, 429.
- Telpherage, *42*, 513.
- Temperature in Austrian Alps, 459; of moon's surface, 412, 443, 541; proposition for wholesale change of, in the Atlantic states, 428.
- Tertiary deposits, classification and paleontology of, 44, 83, 143.
- Thames, sanitary condition of, 335.
- Theosophical society's censorship of the American society for psychical research, 51.
- Thermopist in Washington, 453.
- Thermodynamics, second law of, 212.
- Thibet, journey in, 18.
- THOMAS, C. The Davenport tablet, *42*, 564.
- Thomas, J. J., on influence of locality on fruit, 193.
- Thompson fund, 141, 144, 421.
- Thorodson's explorations in Iceland, 357.
- Thought-transference, *42*, 8.
- Thurston, Prof. R. H., 79; on cylinder condensation, 216; Friction and lost work, reviewed, 275; on Prony-brake, 216; on teaching mechanical engineering, 216.
- Timber, preservation of, 14.
- Time, change to civil, 90; legislation as to standard, 62.
- Titcomb's Mind-cure, reviewed, 543.
- Titles, scientific, 464.
- TODD, D. P. The future of the Lick observatory, 181.
- Todd, D. P., on pressure-motor, 214.
- Toe, the great, in different nations, 432.
- Tornado at Aden, 85; an unusual, 556.
- Tornadoes, prediction of, 357; recent, 352.
- TOR, C. H. The new philology, 366.
- Transcaspian railway, 360.
- Transit instruments, flexure of, 367.
- Trout and mosquitoes, 197.
- TRUIX, F. W. The American ferret, *42*, 549; the British museum of natural history, *42*, 127; a rare dolphin, 44.
- Turner on human crania, 326.
- Turtles, aquatic respiration in, 225, 283.
- Tuttle's comet, 130, 159.
- Tyndall fellowships, 45.
- Types and their inheritance, 298.
- Typhoid-fever in autumn, 374.
- Underground wires, 2, 6, 373.
- Unit of circular measure, 261.
- U. S. coast survey, 158, 349, 491; official scrutiny of, 121; and 'political scientists,' 253; resolutions of American association concerning, 304; system of longitudes, 474; what has it done for science? 558; who should be superintendent, 241; department of agriculture, 453; entomological commission, 315; executive departments, re-organization of, 327; fish commission, 301; geological survey, answer to charges against, 419, 424; unfounded report of irregularities in, 261; mineral products, 99; national museum, entomology in, 445; naval observatory, curious observations at, 379; naval museum of hygiene, 491; recent volcanic eruption in, 46; signal office, advisability of making it a civil bureau, 397; hygrometry in, 536; trouble with students, 397; silk-culture in, 326; tertiary deposits, classification and paleontology of, 44, 83, 143.
- Universities, German, map, 344; mediaeval, 460.
- University of Michigan, biology in, 359; a national, 509, 539; of New York, convocation of, 61.
- Upton, Gen. E., Life of, reviewed, 404.
- Vaccination in Canada, 533.
- Van Ermenegem on cholera microbe, reviewed, 154.
- Van Hise. See Irving and Van Hise.
- VANDERPOEL, S. O. Quarantines and their scientific value, 23.
- Variable, a new, 498.
- Vegetable morphology a century ago, 130.
- Velain's Theory of volcanoes, reviewed, 255.
- Velocity and sediment, 2.
- Vertebrates, educational museums of, 222.
- Vessel, attempt to propel, by explosions, 374.
- Vetter, B., on relationships between dinosaurs and birds, 205.
- Victoria, B.C., earthquake in, 538.
- Village communities, Dutch, of the Hudson, 250.
- Vines. See Bower and Vines.
- Virginias, geology of, 17.
- Vital statistics, tables for, 531.
- Vivisection at Oxford, 429.
- Volcanic activity in the United States, 262; dust east of the Rocky Mountains, 63; eruption, recent, in the United States, 46.
- Volcanoes, theory of, 255.
- Volga, connecting, with Don, 515.
- Voltmeters, 387.
- Voss-Holtz electrical machine, 338, 363.
- W. London letter, 334, 382, 429, 493, 537.
- WADSWORTH, M. E. Volcanic dust east of the Rocky Mountains, 63.
- Wadsworth, M. E., 59.
- Wallace's Bad times, reviewed, 553.
- WARD, L. F. A convenient system of river nomenclature, 321; a national university, 539.
- Warder, R. B., on laboratory practice, 211.
- Waring's How to drain a house, reviewed, 39.
- Washburn university publications, reviewed, 461.
- Washington, agricultural convention at, 68; monument and lightning stroke of June 5, 63; monument protected from lightning, 383; philosophical society, 567.
- Washington, portraits of, 300.
- Water-supply of Breslau, 34; for New York, 72; relation of, to cholera, 532.
- Wead, C. K., on combined spectro-photometer and ophthalmospectroscope, 208.
- Weather changes of long period, 308; in Russia, 430; signals, *42*, 181.
- Weathercocks and drought, 526.
- WEBB, J. B. The second law of thermodynamics, 212.
- Webb, J. B., on lathe as instrument of precision, 215; polar co-ordinates, 206; teaching mechanical engineering, 216.
- Wells, city, 32.
- West Virginia, new meteoric iron from, 563.
- Western society for psychical research, 78.
- Whaling catch, Alaskan, 359.
- Wheat grain, composition of, 415.
- Whirlwinds in Beloochistan, 118.
- WHITE, I. C. The geology of natural gas, 42.
- White ants in Boston, 477.
- White Mountain land-slides, *42*, 84, 306.
- WHITFIELD, R. P. An American Silurian scorpion, *42*, 87, 184; the ginkgo-tree, 4.
- WHITING, Harold. Maxwell's demons, 83.
- Whiting, H., on new theory of cohesion, 274.
- Wight's Maxims of public health, reviewed, 75.
- Wild animals, effect of settlement of America on, 416.
- WILDER, B. G. Educational museums of vertebrates, 222.
- Wilder, B. G., on serrated appendages of *Amia*, 226.
- Wiley, H. W., on adulteration of honey, 210; extraction of sugar from sorghum and sugar-cane, 524; laboratory practice, 211; method of estimating potash, 249.
- WILKINSON, C. S. Geological changes in New South Wales, 320.
- Will-power, experimental study of, 360.
- Willcox, J., on glacial action in Canada, 338.
- Willett's Point, change of latitude of, 118.
- Williams, H. S., on comparative stratigraphy, 220.
- Wilson, J. M., on railroad-bridges, 14.
- Winchell, Alexander, on trend and crustal surplusage in mountain structure, 230.
- Winchell, N. H., on alloy of copper and silver, 251.
- Windmill as a prime mover, 258.
- Winds, artificial, 462.
- WINLOCK, W. C. Comets II and III of 1884, *42*, 47.
- WINSLOW, Arthur. Color and other associations, *42*, 343.
- WINSOR, J., on an Italian portolano of sixteenth century, 250.
- Wires, underground, 2, 6.
- WOIKOFF, A. Stepanak's Russia under the caars, 478.
- Wolf's Windmill as a prime mover, reviewed, 258.
- Women, education and health of, 841.
- Wood, H. C., on injecting gastric juice in blood, 409.
- Woodbury, C. J. H., on automatic sprinklers, 215.
- Woodhead and Hare's Pathological mycology, 316.
- Woolfe exploration of arctic coast of Alaska, 381.
- Worthen, A. H., on quaternary deposits of Illinois, 221.
- Wrangell, F. von, 417.
- WRIGHT, A. W. Electrical measuring instruments, 151.
- Wuelker's History of Anglo-Saxon, reviewed, 487.
- Xingu, explorations of, 133.
- Y. Boston letter, 384, 476.
- Yale college observatory, work at, 98.
- Yellow-fever, 25; inoculation for, 535.
- Yellowstone Park, game in, 406.
- Young, A. V. E., on reaction between potassic hydrate and alum, 211.
- YOUNG, C. A. The Biela meteors, 496; Flood Rock explosion observed at Princeton, N.J., 335.
- Young, C. A., on astronomical day, 444.
- Yucca angustifolia, chemical study of, 210.
- Z. Washington letter, 314, 361, 383, 433, 491, 536.
- Zimmermann's Atlas of plant-diseases, reviewed, 156.
- Zoological gardens in America, 420; Journal, new, 486.
- Zuklan conceptions of animal forms, *42*, 266.